AMENDMENTS TO THE CLAIMS

Please **AMEND** the claims as indicated in the following listing of claims, which replaces all prior versions:

1. (canceled)

2. (canceled)

3. (currently amended) A method for treating a movement disorder in a human patient with an implantable neurostimulator, the method comprising the steps of:

detecting a physiological condition characteristic of an episode of the movement disorder;

selectively initiating treatment delivery, thereby delivering a therapy from the implantable neurostimulator to the patient in response to the physiological condition; and

ceasing treatment delivery;

wherein the physiological condition comprises a neurological event, ~~and~~ wherein the neurological event comprises an electrographic oscillation representing a tremor, and wherein the detecting step comprises the steps of filtering an electrographic signal to isolate a desired component and utilizing a half wave detector to identify a representation of the physiological condition in the desired component.

4. (previously presented) The method for treating a movement disorder of claim 3, further comprising the step of synchronizing the treatment delivery to the physiological condition.

5. (previously presented) The method for treating a movement disorder of claim 3, wherein the therapy comprises an application of responsive electrical stimulation.

6. (previously presented) The method for treating a movement disorder of claim 3, wherein the therapy comprises an application of responsive drug therapy.

7. (previously presented) The method for treating a movement disorder of claim 3, further comprising the step of applying programmed electrical stimulation.

8. (previously presented) The method for treating a movement disorder of claim 3, further comprising the step of delivering programmed drug therapy.

9. (currently amended) A method for detecting an episode of a movement disorder in a human patient, the method comprising the steps of:

receiving a signal with an implantable device, wherein the signal includes information representative of a physical condition characteristic of an episode of the movement disorder;

processing the signal with the implantable device;

analyzing the signal with the implantable device;

detecting a neurological event in the signal with the implantable device, wherein the event represents the physical condition characteristic of an episode of the movement disorder; and

causing the implantable device to perform an action in response to the event;

wherein the detecting step comprises the steps of filtering the signal to isolate a desired component and utilizing a half wave detector to identify a representation of the physical condition in the desired component.

10. (original) The method for detecting an episode of a movement disorder of claim 9, wherein the step of causing the implantable device to perform an action comprises initiating treatment delivery, thereby delivering a therapy from the implantable neurostimulator to the patient in response to the physiological condition.

11. (original) The method for treating a movement disorder of claim 10, further comprising the step of synchronizing the treatment delivery to the physiological condition.

12. (original) The method for treating a movement disorder of claim 10, wherein the therapy comprises an application of responsive electrical stimulation.

13. (original) The method for treating a movement disorder of claim 10, wherein the therapy comprises an application of responsive drug therapy.

14. (original) The method for treating a movement disorder of claim 10, further comprising the step of applying programmed electrical stimulation.

15. (original) The method for treating a movement disorder of claim 10, further comprising the step of delivering programmed drug therapy.

16. (canceled)

17. (canceled)

18. (canceled)

19. (canceled)

20. (canceled)

21. (currently amended) A system for treating a movement disorder in a human patient, the system comprising:

an implantable device having a housing defining a control module including electronic circuitry; and

at least one sensor connected to the electronic circuitry;

wherein the implantable device comprises a detection subsystem adapted to receive sensor data from the at least one sensor;

wherein the implantable device further comprises a therapy subsystem adapted to deliver treatment to the patient;

wherein the implantable device is adapted to detect in the sensor data a physiological condition characteristic of an episode of the movement disorder by filtering the signal to isolate a desired component and utilizing a half wave detector to identify a representation of the physiological condition in the desired component, ; and to initiate treatment delivery, thereby delivering a therapy from the implantable neurostimulator to the patient in response to the physiological condition; and

wherein the sensor comprises a plurality of electrodes adapted to receive electrographic data from the patient.

22. (original) The system for treating a movement disorder of claim 21, wherein the electrographic data comprises an EEG signal.

23. (original) The system for treating a movement disorder of claim 21, wherein the electrographic data comprises an EMG signal.

24. (previously presented) The system for treating a movement disorder of claim 21, wherein the electrodes are further adapted to deliver therapeutic electrical stimulation to the patient.

25. (previously presented) The system for treating a movement disorder of claim 21, further comprising an external apparatus.

26. (original) The system for treating a movement disorder of claim 25, wherein the external apparatus comprises a programmer.

27. (original) The system for treating a movement disorder of claim 25, wherein the implantable device further comprises a communication subsystem adapted to transfer data between the implantable device and the external apparatus.

28. (previously presented) The system for treating a movement disorder of claim 21, wherein the implantable device is implanted intracranially in the patient.

29. (canceled)

30. (canceled)

31. (canceled)

32. (canceled)

33. (currently amended) A method for treating a movement disorder in a human patient with an implantable neurostimulator, the method comprising the steps of:

detecting a physiological condition characteristic of an episode of the movement disorder, wherein the physiological condition comprises a neurological event;

generating a command signal with a central processing unit of the implantable neurostimulator in response to the physiological condition;

selectively and automatically initiating treatment delivery in response to the command signal, thereby delivering a therapy from the implantable neurostimulator to the patient; and

selectively and automatically ceasing treatment delivery;

wherein the neurological event comprises an EEG oscillation representing a tremor; and

wherein the detecting step comprises filtering an electrographic signal to isolate a desired component and utilizing a half wave detector to identify a representation of the physiological condition in the desired component.

34.   (currently amended) A method for treating a movement disorder in a human patient with an implantable neurostimulator, the method comprising the steps of:

detecting a physiological condition characteristic of an episode of the movement disorder, wherein the physiological condition comprises a neurological event;

generating a command signal with a central processing unit of the implantable neurostimulator in response to the physiological condition;

selectively and automatically initiating treatment delivery in response to the command signal, thereby delivering a therapy from the implantable neurostimulator to the patient; and

selectively and automatically ceasing treatment delivery;

wherein the neurological event comprises EEG activity associated with the movement disorder; and

wherein the detecting step comprises filtering an electrographic signal to isolate a desired component and utilizing a half wave detector to identify a representation of the physiological condition in the desired component.

35. (previously presented) The method for treating a movement disorder of claim 34, further comprising the step of synchronizing the treatment delivery to the physiological condition.

36. (previously presented) The method for treating a movement disorder of claim 34, wherein the therapy comprises an application of responsive electrical stimulation.

37. (previously presented) The method for treating a movement disorder of claim 34, wherein the therapy comprises an application of responsive drug therapy.

38. (previously presented) The method for treating a movement disorder of claim 34, further comprising the step of applying programmed electrical stimulation.

39. (previously presented) The method for treating a movement disorder of claim 34, further comprising the step of delivering programmed drug therapy.

40. (previously presented) The method for treating a movement disorder of claim 34, further comprising the step of generating the command signal in response to a programmed schedule.

41. (previously presented) The method for treating a movement disorder of claim 34, wherein the therapy comprises an application of an electrical stimulation signal having a non-pulsatile morphology.

42. (previously presented) The method for treating a movement disorder of claim 34, wherein the therapy comprises an application of an electrical stimulation signal having a substantially sinusoidal morphology.

43. (previously presented) The method for treating a movement disorder of claim 34, wherein the therapy comprises an application of an electrical stimulation signal comprising at least one burst of pulses.

44. (original) The method for treating a movement disorder of claim 43 wherein the at least one burst of pulses has a beginning and an end, and wherein the beginning and the end are ramped to avoid sensory effects in the patient.

45. (previously presented) The method for treating a movement disorder of claim 34, wherein the therapy comprises an application of an electrical stimulation signal having a DC component.